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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,306	12/31/2003	Naimul Karim	59378US002	1782

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EXAMINER	
KOEHLER, CHRISTOPHER M	
ART UNIT	**PAPER NUMBER**
3726	

NOTIFICATION DATE	DELIVERY MODE
01/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary	Application No.	Applicant(s)	
	10/749,306	KARIM ET AL.	
	Examiner	Art Unit	
	Christopher M. Koehler	3726	

CT

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *28-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-7, 13-17 and 19-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Freilich et al. (US Patent No. 6,599,125).

Claim 1:

Freilich teaches a method of making a dental appliance comprising providing a dental mill blank comprising a substantially uncured, self-supporting hardenable organic composition (col. 6, lines 57-60); machining the mill blank into a substantially uncured shaped article; and at least partially curing the shaped article to provide a hardened dental appliance (col. 8, lines 10-25; col. 8, line 36-col. 10, line 8; col. 12, lines 40-60). Freilich teaches that the dental mill blank is only cured enough to be sufficiently machined and therefore inherently encompasses that the mill blank is uncured, partially cured, or fully cured depending on the material used to comprise the mill blank.

Claims 2-7 and 13-16:

Freilich teaches a suitable composition for dental mill blanks in col. 4, line 23-col. 6, line 15.

Claim 17:

Freilich teaches the addition of many elements to form a suitable composition for dental mill blanks as cited above. The addition of any of these materials to the overall composition will inherently change the viscosity of the overall composition.

Claim 19:

Freilich teaches that the dental mill blanks can be used for a variety of dental purposes (col. 13, lines 13-18).

Claims 20, 21 and 24-27:

Freilich teaches processing the hardened dental appliance in a variety of ways including polishing, which is to be considered a form of machining (col. 12, lines 31-34; col. 13, lines 9-13).

Claims 22-23:

Freilich teaches machining with a CAD/CAM device (col. 8, line 36-col. 9, line 2).

Claim Rejections - 35 USC § 103

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being obvious over Freilich et al. (US Patent No. 6,599,125) in view of Karim et al. (USPGPUB 2003/0114553).

The applied reference (USPGPUB 2003/0114553) has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and

that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Claim 1:

Freilich teaches a method of making a dental appliance comprising providing a dental mill blank comprising a substantially uncured, self-supporting hardenable organic composition (col. 6, lines 57-60); machining the mill blank into a substantially uncured shaped article; and at least partially curing the shaped article to provide a hardened dental appliance (col. 8, lines 10-25; col. 8, line 36-col. 10, line 8; col. 12, lines 40-60). Freilich teaches that the dental mill blank is only cured enough to be sufficiently machined and therefore inherently encompasses that the mill blank is uncured, partially cured, or fully cured depending on the material used to comprise the mill blank. In the event that applicant traverses this inherency applied to claim 1 above in view of Freilich, claim 1 is alternatively rejected under Freilich in view of Karim to specifically identify a composition that is millable in a substantially uncured state.

Karim teaches a hardenable self-supporting structure to be used in dental mill blanks. Karim teaches that this composition in its uncured state has rheological properties similar to waxes below the waxes' melting points in that they can be relatively easily deformed and exhibit low elastic recovery (paragraph [0042]) and is capable of

being shaped by trimming, cutting, sculpting, grinding, etc (paragraph [0131]). Therefore, the composition of Karim is inherently suitable to be machined in a substantially uncured state.

It would have been obvious to one or ordinary skill in the art at the time of invention to use the material composition of Karim in the method of Freilich in order to produce a machined implant that is substantially uncured at the time of implantation into a patient so that the practitioner is capable of finish molding the implant at the moment of implantation to provide the most exact and comfortable fit for the patient. The combined embodiment for the purpose of examination of the depending claims is the method of Freilich utilizing the composition of Karim, therefore composition claims are addressed by Karim and method steps addressed by Freilich.

Claims 2-4:

Karim teaches that the composition is a composite material comprising a resin system, an initiator system and a filler system (paragraph [0039]).

Claims 5-10:

Karim teaches that the polymerizable resin system comprises a crystalline component (paragraphs [0056]-[0065]).

Claim 11:

Karim teaches that the resin system comprises a ethylenically unsaturated component (paragraph [0097]).

Claim 12:

Karim teaches the use of acrylates, methacrylates and vinyls (paragraph [0075]).

Claims 13 and 14:

Karim teaches the use of nanoscopic particulate filler materials (paragraph [0101]).

Claims 15 and 16:

Karim teaches the use of free radical or photo- or thermal initiators (paragraph [0110]).

Claim 17:

Karim teaches the use of a viscosity modifier (paragraph [0127]).

Claim 18:

Karim teaches the use of a surfactant (paragraph [0119]).

Claim 19:

Karim teaches that the hardenable material can be used in a variety of different dental applications including crowns (paragraph [0132]).

Freilich teaches that the dental mill blanks can be used for a variety of dental purposes (col. 13, lines 13-18).

Claims 20, 21 and 24-27:

Freilich teaches processing the hardened dental appliance in a variety of ways including polishing, which is to be considered a form of machining (col. 12, lines 31-34; col. 13, lines 9-13).

Claims 22-23:

Freilich teaches machining with a CAD/CAM device (col. 8, line 36-col. 9, line 2).

Response to Arguments

4. Applicant's arguments filed 10/18/2007 have been fully considered but they are not persuasive.

5. Applicant argues that Feilich fails to teach that the hardenable dental mill blank is substantially uncured when machined citing that Freilich teaches partially curing the material. The examiner contends that a teacing of partially curing the material includes substantially uncured machining. Freilich teaches partial curing, i.e. less than complete curing, and therefore encompasses "substantially uncured" or mostly uncured. Furthermore, the fact that applicant has provided a definition of the term "substantially uncured" in the specification does not bind the examiner to that definition when determining the scope of the claim limitations.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571) 272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMK

DAVID P. BRYANT
SUPERVISORY PATENT EXAMINER
1/7/08